

link means for forming link data linking the audio identifiers to the character component positions in the character string [even] , and for updating said link data after processing to maintain the link between the audio identifiers and the character component positions in the processed character string;

display means for displaying the characters [being processed] received by said processing means;

user operable selection means for selecting characters in the displayed characters for audio playback, where said link data identifies any selected audio components, if present, which are linked to the selected characters; and

audio playback means for playing back the selected audio components in the order of the character component positions in the character string or the processed character string.

13. [Amended] A data processing [network] arrangement comprising:

[data processing apparatus as claimed in claim 1 including storage means for storing the characters, the link data, and the audio data; and]

a data processing apparatus, the data processing apparatus comprising:

input means for receiving recognition data and corresponding audio data from a speech recognition engine, said recognition data including a string of recognized characters and audio identifiers identifying audio components corresponding to a character component of the recognized characters;

processing means for receiving and processing the input recognized characters to at least one of replace, insert move and position the recognized characters to form a processed character string;

link means for forming link data linking the audio identifiers to the character component positions in the character string, and for updating said link data after processing to maintain the link between the audio identifiers and the character component positions in the processed character string;

storage means for storing said recognition data and audio data received from said input means, and for storing said link data;

display means for displaying the characters received by said processing means;

user operable selection means for selecting characters in the displayed characters for audio playback, where said link data identifies any selected audio components, if present, which are linked to the selected characters; and

audio playback means for playing back the selected audio components in the order of the character component positions in the character string or the processed character string; and

an editor work station [connected to said data processing apparatus via a network, said editor work station] comprising:

data reading means for reading the characters, link data and audio data from said processing apparatus [over the network];

editor processing means for processing the characters;

editor link means for linking the audio data to the character component position using the link data;

editor display means for displaying the characters being processing;

editor correction means for selecting and correcting any displayed characters which [has] have been incorrectly recognized;

editor audio playback means for playing back any audio component corresponding to the selected characters to aid correction;

editor speech recognition update means for storing the corrected characters and the audio identifier for the audio component corresponding to the corrected character in a character correction file; and

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data [uploading] transfer means for [uploading] transferring the character correction file to said data processing apparatus for later updating of models used by said speech recognition engine;

said data processing apparatus including correction file reading means for reading said character correction file to pass the data contained therein to said speech recognition engine for the updating of the models used by said speech recognition engine.

14. [Amended] A data processing [method] arrangement as claimed in claim 13 wherein said recognition data includes alternative characters, said editor display means including means to display a choice list comprising the alternative characters, said editor correcting means including means to select one of the alternative characters or to enter a new character.

15. [Amended] A data processing [network] arrangement as claimed in claim 13 including editor contextual update means operable by a user to select recognized characters which are to be used to provide contextual correcting parameters to said speech recognition engine of said data processing apparatus, and to store said contextual correcting parameters in a contextual correction file;

said data [uploading] transfer means being responsive to the contextual correction file to [upload] transfer the contextual correction file to said data processing apparatus for later updating of models used by said speech recognition engine;

said correction file reading means of said data processing apparatus being responsive to the contextual correction file to read the contextual correction file to pass the data contained therein to said speech recognition engine.

16. [Amended] A data processing [network] arrangement as claimed in claim 13 wherein said recognition data includes a likelihood indicator for each character in the character string indicating the likelihood that the character is correct, and said link data includes the indicators,

said editor work station including editor automatic error detection means for detecting possible errors in recognition of characters in the recognized characters by scanning the likelihood indicators in said data for the characters and detecting if the likelihood indicator for a character is below a likelihood threshold, whereby said editor display means highlights characters having a likelihood indicator below the likelihood threshold;

editor selection means for selecting a character to replace an incorrectly recognized character highlighted in the text; and

editor correction means for replacing the incorrectly recognized character with the selected character to correct the recognized characters.

17. [Amended] A data processing [network] arrangement as claimed in claim 13 wherein said data processing apparatus includes file storage means for storing the recognized characters in a file;

means for selectively disabling one of the receipt of the recognized characters by said processing means and the recognition of speech by said speech recognition engine for a period of time[,] with means for storing the audio data for the period of time in said storage means as an audio message associated with the document; and

storage reading means for reading said document for input to said processing means, and for reading said audio message for playback by said audio playback means;

said editor work station including audio message reading means for reading [over the network] the audio message associated with characters being processed by said editor processing means for playback by said editor audio playback means.

18. [Amended] A data processing [network] arrangement as claimed in claim 17 wherein said audio message reading means is controllable by a user to read said audio message at any time the associated characters are being processed by said editor processing means.

DATA PROCESSING METHOD AND APPARATUS

19. [Amended] An editor work station for use with the data processing [network] arrangement as claimed in claim 13, said editor work station comprising:

data reading means for reading the characters, link data and audio data from said data processing apparatus [over the network];

editor processing means for processing characters;

editor link means for linking the audio data to the character component position using the link data;

editor display means for displaying the read characters [being processed];

editor correction means for selecting and correcting any displayed characters which have been incorrectly recognized;

editor audio playback means for playing back any audio component corresponding to the selected characters to aid correction;

editor speech recognition update means for storing the corrected character and the audio identifier for the audio component corresponding to the corrected character in a character correction file; and

data [uploading] transfer means for [uploading] transferring the character correction file to said data processing apparatus for later updating of models used by said speech recognition engine.

21. [Amended] An editor workstation as claimed in claim 19 including editor contextual update means operable by a user to select recognized characters which are to be used to provide contextual correcting parameters to said speech recognition engine of said data processing apparatus, and to store said contextual correcting parameters in a contextual correction file;

said data [uploading] transfer means being responsive to the contextual correction file to [upload] transfer the contextual correction file to said data processing apparatus for later updating of models used by said speech recognition engine;

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said correction file reading means of said data processing apparatus being responsive to the contextual correction file to read the contextual correction file to pass the data contained therein to said speech recognition engine.

23. [Amended] A data processing method comprising the steps of:

receiving recognition data and corresponding audio data from a speech recognition engine, said recognition data including recognized characters and audio identifiers identifying audio components corresponding to text components in the recognized text;

storing the audio data;

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inputting the recognized characters to a processor for the processing of the characters to at least one of replace, insert [and move words in the character, position the character, and format the characters;] move and position the characters to form a processed character string;

forming link data linking the audio identifiers to the character component positions in the characters [even] and updating said link data after processing to maintain the link between the audio identifiers and the character component positions in the processed character string;

displaying the characters input to the processor;

selecting displayed characters for audio playback, whereby said link data identifies any selected audio components, if present, which are linked to the selected characters; and

playing back the selected audio components in the order of the character component positions in the character[s] string.

35. [Amended] A method of processing data [over a network] comprising the steps of:

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at an author work station, carrying out the method as claimed in claim 23 wherein the characters, the link data and the audio data is stored; and

at an editor work station [linked to said author work station by said network], [reading] obtaining the stored characters, link data and audio data from the author work station [over said network];

DATA PROCESSING METHOD AND APPARATUS

inputting the characters into a processor;
linking the audio data to the character component positions using the link data;
displaying the characters being processed;
selecting any displayed characters which have been incorrectly recognized;
playing back any audio component corresponding to the selected characters to aid
correction;
correcting the incorrectly recognized characters;
storing the corrected characters and the audio identifier for the audio component
corresponding to the corrected character in a character correction file; and
[uploading] transferring the character correction file [over the network] to the author
work station for later updating of models used by said speech recognition engine;
wherein, at a later time, said character recognition file is read at said author work station
to pass the data contained therein to said speech recognition engine for updating of said models.

37. [Amended] A method as claimed in claim 35 including the steps at said editor work
station of selecting recognized characters which are to be used to provide contextual correcting
parameters to said speech recognition engine at said author work station;
storing said contextual correcting parameters in a contextual correction file; and
[uploading] transferring said contextual correction file [over the network] to said author
work station for later updating of models used by said speech recognition engine; and
at said author work station, at a later time, reading the [uploaded] transferred contextual
correction file and passing the data contained therein to said speech recognition engine.

39. [Amended] A method as claimed in claim 35 wherein the method includes the steps of:
at said author work station, storing the characters as a file;
selectively disabling one of the importation of recognized characters into the processor
and the recognition of speech by said speech recognition engine for a period of time;

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storing the audio data for the period of time as an audio message associated with the file;
at a later time, reading said file for input to the processor, and
at said editor work station, reading [over the network] the audio message associated with
the file being processed by the processor, and playing back the read audio message.

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42. [Amended] A data processing [network] arrangement as claimed in claim 13 comprising
a plurality of said data processing apparatus connected to [the] a network, and at least one editor
work station, wherein each editor work station can access and edit stored characters and audio
data on a plurality of said data processing apparatus.

59. [New] A data processing arrangement comprising:

a data processing apparatus, the data processing apparatus comprising:

input means for receiving recognition data and corresponding audio data
from a speech recognition engine, said recognition data including a string of
recognized characters and audio identifiers identifying audio components
corresponding to character components of the recognized characters;

link means for forming link data linking the audio identifiers to the
character component positions in the character string;

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storage means for storing said audio data received from said input means
said link data, and said characters; and

display means for displaying the recognized characters; and
an editor work station, the editor work station comprising:

data reading means for obtaining the characters, link data, and audio data
from said data processing apparatus;

editor processing means for processing the characters;

editor link means for linking the audio data to the character component
position using the link data;

editor display means for displaying the characters being processed;
editor correction means for selecting and correcting any displayed characters which have been incorrectly recognized; editor audio playback means for playing back any audio component corresponding to the selected characters to aid correction;

editor speech recognition update means for storing the corrected characters and the audio identifier for the audio component corresponding to the corrected character in a character correction file; and

data transfer means for transferring the character correction file to said data processing apparatus for later updating of models used by said speech recognition engine;

said data processing apparatus including correction file reading means for reading said character correction file to pass the data contained therein to said speech recognition engine.

60. [New] A data processing arrangement as claimed in claim 59 wherein said data processing apparatus includes

processing means for receiving and processing the input recognized characters to replace, insert, move and/or position the recognized characters;

user operable selection means for selecting characters in the displayed characters for audio playback, where said link data identifies any selected audio components, if present, which are linked to the selected characters; and

audio playback means for playing back the selected audio components in the order of the character component positions in the character string.

61. [New] An editor work station for use with the data processing arrangement as claimed in claim 59, said editor work station comprising:

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data reading means for reading the characters, link data, and audio data from said data processing apparatus;

editor processing means for processing characters;

editor link means for linking the audio data to the character component position using the link data;

editor display means for displaying the read characters;

editor correction means for selecting and correcting any displayed characters which have been incorrectly recognized;

editor audio playback means for playing back any audio component corresponding to the selected characters to aid correction;

editor speech recognition update means for storing the corrected character and the audio identifier for the audio component corresponding to the corrected character in a character correction file; and

data transfer means for transferring the character correction file to said data processing apparatus for later updating of models used by said speech recognition engine.

62. [New] Data processing apparatus for use with the data processing arrangement of claim 59, said data processing apparatus comprising:

input means for receiving recognition data and corresponding audio data from a speech recognition engine, said recognition data including a string of recognized characters and audio identifiers identifying audio components corresponding to character components of the recognized characters;

link means for forming link data linking the audio identifiers to the character component positions in the character string;

storage means for storing said audio data received from said input means, said link data, and said characters;

display means for displaying the recognized characters; and